

Serial No. 10/674668

Attorney Docket No. 20T-022-CON

LISTING OF CLAIMS:

The present listing of claims replaces all previous version and listings in the present application.

Please cancel claims 17, 21, 23, 25 and 27-37.

1.-15. (Canceled)

16. (Currently amended) A satellite-based method for rapidly altering the size of a communication cell in response to bandwidth demands, said method including:

transmitting a plurality of radio frequency (RF) beams from a satellite-based transmitter to establish a corresponding plurality of communication cells, each of the plurality of communication cells having an assignable set of communication slots capable of servicing a plurality of users in a coverage area during a frame time interval, the plurality of users including first users having a high demand and second users having a low demand, the first users assigned a first group of the assignable set of communication slots and the second users assigned a second group of the assignable set of communication slots;

determining establishing a first size for a first communication cell associated with one of the plurality of RF beams based on a first bandwidth demand associated with the first users;

determining a second size for said first communication cell associated with the one of the plurality of RF beams based on a second bandwidth demand associated with the second users;

Serial No. 10/674668

Attorney Docket No. 20T-022-CON

~~determining a bandwidth demand for at least one communication cell adjacent to said first communication cell and only for said at least one communication cell adjacent to said first communication cell; and~~

rapidly altering the size of said first communication cell from said first size to said a second size based at least in part on said bandwidth demand during the second group of the assignable set of communication slots and from said second size to said first size during the first group of the assignable set of communication slots, by adjusting one or more beam forming parameters associated with the one of the plurality of RF beams.

17. (Canceled)

18. (Currently amended) The satellite-based method of claim 16, wherein a terminal in a communication cell adjacent to said first communication cell makes a bandwidth request,

wherein said bandwidth request has a priority level,

wherein said step of altering said size of said first communication cell is based in part on said priority level.

19. (Currently amended) The satellite-based method of claim 16, wherein said second size of said first communication cell overlaps on at least one communication cell adjacent to said first communication cell.

Serial No. 10/674668

Attorney Docket No. 20T-022-CON

20. (Currently amended) A satellite-based method for rapidly altering the size of a communication cell in response to bandwidth demands, the communication cell having an assignable set of communication slots capable of servicing a plurality of users in a coverage area during a frame time interval, the plurality of users including first users having a high demand and second users having a low demand, the first users assigned a first group of the assignable set of communication slots and the second users assigned a second group of the assignable set of communication slots, said method including:

~~determining a service area including a plurality of communication cells; determining a first size for a first~~ the communication cell based on the high demand associated with the first users in ~~said service area;~~

~~determining a second size for said first~~ the communication cell based on the high demand of the first users and the low demand of the second users in said service area;

~~determining a bandwidth demand for at least one communication cell adjacent to said first communication cell and only for said at least one communication cell adjacent to said first communication cell;~~

~~wherein said at least one communication cell adjacent to said first communication cell includes a subset of said plurality of communication cells of said service area comprising less than all of said plurality of communication cells; and~~

rapidly altering the size of said first the communication cell from said first size to said second size based at least in part on said bandwidth demand during the second group of the assignable set of communication slots and from said second size to said first size during the first group of the assignable set of communication slots.

Serial No. 10/674668

Attorney Docket No. 20T-022-CON

21. (Canceled)

22. (Currently amended) The satellite-based method of claim 20, wherein a terminal associated with one of the users in [[a]] the communication cell adjacent to said first communication cell makes a bandwidth request,

wherein said bandwidth request has a priority level,

wherein said step of rapidly altering said size of ~~said first~~ the communication cell is based in part on said priority level.

23. (Canceled).

24. (Currently amended) A satellite-based method for rapidly altering the size of a communication cell in response to bandwidth demands, the communication cell having an assignable set of communication slots capable of servicing a plurality of users in a coverage area during a frame time interval, the plurality of users including first users having a high demand and second users having a low demand, the first users assigned a first group of the assignable set of communication slots and the second users assigned a second group of the assignable set of communication slots, said method including:

determining a first size for a communication cell based on the high demand associated with the first users;

determining a second size for said communication cell based on the high demand of the first users and the low demand of the second users;

Serial No. 10/674668

Attorney Docket No. 20T-022-CON

~~determining a bandwidth demand for said communication cell and only for said communication cell; and~~

rapidly altering the size of said communication cell from said first size to said second size ~~based at least in part on said bandwidth demand during the second group of the assignable set of communication slots and from said second size to said first size during the first group of the assignable set of communication slots~~, said second size of said communication cell overlapping on at least one communication cell adjacent to said communication cell.

25. (Canceled)

26. (Currently amended) The satellite-based method of claim 24, wherein a terminal associated with one of the plurality of users in said communication cell makes a bandwidth request,

wherein said bandwidth request has a priority level,

wherein said altering step is based in part on said priority level.

27. – 37. (Canceled)

38. (New) A satellite-based method for rapidly altering the size of a communication cell in response to bandwidth demands, the method comprising:

Serial No. 10/674668

Attorney Docket No. 20T-022-CON

transmitting a plurality of beams from a transmitter to establish a corresponding plurality of communication cells, each of the plurality of communication cells having an assignable set of communication slots capable of servicing a plurality of users in a coverage area during a frame time interval, the plurality of users including first users having a high demand and second users having a low demand, the first users assigned a first group of the assignable set of communication slots and the second users assigned a second group of the assignable set of communication slots;

establishing a first size for one of the plurality of communication cells with one of the plurality of beams based on the high demand associated with the first users;

determining a second size for the one of the plurality of communication cells based on the high demand associated with the first users and the low demand associated with the second users; and

rapidly altering the size of the one of the plurality of communication cells during the frame time interval from the first size to the second size during the second group of the assignable set of communication slots and from the second size to the first size during the first group of the assignable set of communication slots by adjusting the one of the plurality of beams.

39. (New) The satellite-based method according to claim 38, wherein the assignable set of communication slots is associated with a frequency division multiple access (FDMA) communication protocol.

Serial No. 10/674668

Attorney Docket No. 20T-022-CON

40. (New) The satellite-based method according to claim 38, wherein the assignable set of communication slots is associated with a time division multiple access (TDMA) communication protocol.

41. (New) A satellite-based method for rapidly altering the size of a communication cell in response to bandwidth demands, the communication cell having an assignable set of communication slots capable of servicing a plurality of users in a coverage area during a frame time interval, the plurality of users including first users having a high demand and second users having a low demand, the first users assigned a first group of the assignable set of communication slots and the second users assigned a second group of the assignable set of communication slots, the method comprising:

determining a first size and a first downlink power level for the communication cell based on the high demand associated with the first users;

determining a second size and a second downlink power level for the communication cell based on the high demand of the first users and the low demand of the second users; and

rapidly altering the size and a downlink power level of the communication cell from the first size and the first downlink power level to the second size and the second downlink power level during the second group of the assignable set of communication slots and from the second size and the second downlink power level to the first size and the first downlink power level during the first group of the assignable set of communication slots.

Serial No. 10/674668

Attorney Docket No. 20T-022-CON

42. (New) The satellite-based method according to claim 41, wherein the assignable set of communication slots is associated with a frequency division multiple access (FDMA) communication protocol.

43. (New) The satellite-based method according to claim 41, wherein the assignable set of communication slots is associated with a time division multiple access (TDMA) communication protocol.

44. (New) A satellite-based method for rapidly altering the size of a communication cell in response to bandwidth demands, the communication cell having an assignable set of communication slots capable of servicing a plurality of users in a coverage area during a frame time interval, the plurality of users including first users having a high demand and second users having a low demand, the first users assigned a first group of the assignable set of communication slots and the second users assigned a second group of the assignable set of communication slots, the method comprising:

determining a first size for a communication cell based on the high demand associated with the first users;

determining a second size for the communication cell based on the high demand of the first users and the low demand of the second users; and

rapidly altering the size of the communication cell from the first size to the second size and increasing a downlink transmit gain value during the second group of the assignable set of

Serial No. 10/674668

Attorney Docket No. 20T-022-CON

communication slots, wherein the second size of the communication cell overlapping on at least one communication cell adjacent to the communication cell.

45. (New) The satellite-based method according to claim 44, wherein the assignable set of communication slots is associated with a frequency division multiple access (FDMA) communication protocol.

46. (New) The satellite-based method according to claim 44, wherein the assignable set of communication slots is associated with a time division multiple access (TDMA) communication protocol.